

REMARKS/ARGUMENTS

Claims 1-5, 7-20, 22, 23 and 25 are pending in the present application. All the pending claims were amended to more clearly recite the present invention. Claims 6, 21, 24 and 26 were each cancelled.

No new matter was added. Withdrawal of all objections and rejections is respectfully requested for the reasons set forth below.

Election/Restrictions

In paragraph 1 of page 2 of the Office Action, Applicant was required to elect one of two purported species of claimed invention; specifically, the species of Figs. 1-6 or Figs. 7-8; and 2) a clip orientation of Fig 10 or a clip orientation of Fig. 11.

Applicant hereby elects the species depicted in Figs. 1-6; however, Applicant believes that all pending claims read upon the species of Figs. 1-6 (as well as the species of Figs. 7-8) since none of the claims recite anything with regard to the structure of the hinge (14) that only reads upon one species and not the other. Therefore, Applicant hereby lists claims 1-5, 7-20, 22, 23 and 25 as reading upon the species of Figs. 1-6.

With regard to the requirement of making an election between the clip orientation of Fig. 10 and the orientation of Fig. 11, Applicant respectfully traverses this requirement. The clip orientation of Fig. 10 is not patentably distinct from the clip orientation of Fig. 11 as one feature of the present invention is the capability of installing the clip (10) alternatively in the two different orientations so that the clip hinge (14) functions as a keystone in one orientation (Figs. 9 and 11), but does not obstruct the keyway (55) in the other orientation (Fig. 10) (see, e.g., Pg. 13, line 29 - Pg. 14, line 6). This capability was claimed in original claim 21 (now cancelled) and these features are now incorporated into amended claim 11, and further defined to specifically recite that the hinge surface functions as a key stop.

Therefore, as Applicant believes that there is no patentable distinction between the two clip orientations, but instead the capability of being arranged alternatively in the two orientations is a specifically claimed feature of the present invention, the requirement of an election between Fig. 10 and Fig. 11 should be withdrawn.

Objections to the Specification

In paragraph 3 of page 3 of the Office Action, the disclosure was objected to based on certain informalities. Specifically, it was stated that on page 10, line 3, “30” should be replaced by --32--; on page 12, line 10, “52” should be replaced with --54--; and on page 13, line 1, “9 and 12” appeared inaccurate.

In the present Amendment, the paragraph beginning at page 10, line 1 was amended at line 3 by replacing “inner surface 30” with --inner surface 32--. The paragraph beginning at page 12, line 5 was amended at line 10 by replacing “52” with --54--. Further, the paragraph beginning at page 12, line 30 was amended such that page 13, line 1 was amended by replacing “(Fig. 9 and 12)” with --(Fig. 9 and 11)--.

In view of the above amendments, Applicant respectfully requests withdrawal of the objections to the specification.

Claim Objections

In paragraph 4 on page 3 of the Office Action, claims 7, 8, 25 and 26 were objected to on the following asserted informalities. It was stated that at claim 7, lines 2-3, there was no antecedent basis for “the hinge”; at claim 8, line 5, --the-- should follow “that”; at claim 23, line 5, --the-- should follow “that”; at claim 25, line 9, there was no antecedent basis for “the body”; and at claim 26, line 14, there was no antecedent basis for “the bore axis”.

In the present Amendment, claim 1 was amended to positively recite “a hinge”, such that the recitation of “the hinge” in lines 2-3 of claim 7, which depends from claim 1, now has a proper antecedent basis. Claim 8 was amended at line 4, and Claim 23 was amended at line 5, by adding --the-- before “body”. Further, claim 25 was amended at line 9 by replacing “body” with --clip--, which was previously recited and has a proper antecedent basis. Finally, claim 26 was cancelled, such that the objection thereto is now moot.

In view of the above amendments, Applicant respectfully requests withdrawal of the objections to the claims.

102 Rejection under Dery

In paragraph 3 of page 4 of the office action, claims 11-13, 16, 17 and 24 were rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 1,299,691 of Dery (“Dery”). As

Applicant believes that Dery does not disclose all features of independent claim 11 as amended, as discussed below, Applicant respectfully traverses this rejection.

Dery discloses a washer (5) with free ends (6) that is receivable in a recess (3) of a bolt (2) to retain a nut (1) on the bolt (1).

In the present Amendment, claim 11 was amended to recite that the present invention is directed to a “lock assembly” that comprises, among other elements, “a housing having a bore” and “a lock plug disposeable within the housing bore”.

Dery clearly does not teach or disclose a lock assembly, and particularly not a lock assembly that includes a housing and a lock plug. As such, the present invention as recited in independent claim 11 as amended is not anticipated by Dery, such that the rejection of amended claim 11 under 35 U.S.C. 102(b) should be withdrawn. As claims 12, 13, 16 and 17 each depend from independent claim 11, and claim 11 as amended is not anticipated by Dery, the rejection of claims 12, 13, 16 and 17 under 35 U.S.C. 102(b) should also be withdrawn.

102 Rejection under Schwartz

In paragraph 4 of page 4 of the office action, claims 1-5, 8 and 23 were each rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 3,429,154 of Schwartz (“Schwartz”). As Schwartz fails to disclose all features of independent claim 1 as amended, Applicant respectfully traverses this rejection and respects the withdrawal thereof, for the reasons below.

Schwartz discloses a lock plug formed of two semicylindrical sections (10), (11), each having a hole (50), (51), respectively, and a generally semicircular retainer clip (54). As described in Column 3, lines 51-68, the retainer clip (54) includes projecting tangs (56), (57) receivable respectively in holes (50),(51) and a radially inward tongue (58) disposeable within a passageway (38), (39) formed between the two plug sections (10), (11).

In the present Amendment, claim 1 was amended to recite that the present invention includes a retainer clip having a body with “a central bended portion disposed between...two ends, offset radially inwardly with respect to a remainder of the body and providing an integral, foldable hinge...the body being deflectable generally about the hinge portion” as recited in claim 1 as amended. The present invention is directed to a lock assembly (1) that includes a retainer clip (10) formed of a generally arcuate body (12) disposeable about a plug outer surface (8) and having a generally radial retention surface (18) positionable generally against a lock housing end

surface (6). The clip (10) has first and second free ends (20A), (20B) with projections (16A), (16B) that are disposeable within openings (9A), (9B) of a lock plug (2). A central bended portion (12a) is disposed between the two ends (20A), (20B), is offset radially inwardly with respect to a remainder of the body (12), and provides an integral, foldable hinge (14). As such, the body (12) is deflectable generally about the hinge (14) to facilitate removal and installation of the projections (16A), (16B) from and into, respectively, the plug openings (9A), (9B). More specifically, by having a foldable hinge (14), a much lesser force is required to bend the arm portions (22), (24) of the clip body (12) (see Page 9, lines 11-20).

The Schwartz retainer clip (54) has two arms (not indicated) that are each bendable about the central tongue (58) in the manner of a separate cantilever beam. Clearly, Schwartz clearly does not teach or even suggest a foldable hinge, and particularly not a foldable hinge provided by a central, inwardly-offset bended portion of the clip.

As such, the present invention as recited in claim 1 as amended is not anticipated by Schwartz, such that the rejection of claim 1 under 35 U.S.C. 102(b) should be withdrawn. As claims 2-5 and 8 each depend from independent claim 1, and claim 1 as amended is not anticipated by Schwartz, the rejection of claims 2-5 and 8 under 35 U.S.C. 102(b) should also be withdrawn. Further, claim 23 has been amended herein so as to correct the dependency to be from claim 11 instead of claim 1, the rejection of claim 23 under Schwartz is now moot. Finally, as claim 26 has been cancelled herein, the rejection of claim 26 is also now moot.

102 Rejection under Jacobi

In paragraph 1 of page 5 of the office action, claim 24 was rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 2,059,695 of Jacobi ("Jacobi"). As claim 24 was cancelled in the present amendment, the rejection of claim 24 under 35 U.S.C. 102(b) is now moot and should be withdrawn.

103 Rejection under Lin in view of Jacobi

In paragraph 3 of page 5 of the office action, claims 11-18, 22 and 23 were each rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,921,122 of Lin ("Lin") in view of US Patent 2,059,695 of Jacobi ("Jacobi"). As neither patent teaches at least the following

features of independent claim 11 as amended, Applicant respectfully traverses this rejection and respects the withdrawal thereof, for the reasons below.

Lin teaches a lock assembly including a main body (1) with a compartment (11) for receiving a lock core (2) (Col. 1, lines 61-64). The main body (1) has a slot (12) and the lock core (2) has a groove (21), such that a C-clip (13) is extendable through the slot (12) and engages within the groove (21) to “rotationally hold” the lock core (2) within the body (1) (see Col. 2, lines 5-9).

Jacobi teaches a door handle lock that includes a casing (6) with an opening (23) and a lock cylinder (14) insertable within the casing (6) and having an annular groove (24) (Page 1, Col. 2, lines 2-18; lines 44-49). A retaining member (25) has an inwardly directed bead or “part” (26) that is disposeable within the casing opening (23) so as engage with the groove (24) to retain the cylinder (14) within the casing (6) (see Pg. 1, Col. 2, lines 44-53; Pg. 2, Col. 1, lines 1-2). The retaining member (25) is preferably “formed of a flat spring material and is substantially ring shaped” so as to surround a section of the casing (6) (Pg. 1, Col. 2, line 54 - Pg. 2, Col. 1, line 1). As discussed at page 2, lines 3-29, to install or remove the lock cylinder (14) from the casing (6), the retaining part (26) must be pushed to move in an outward direction within the casing opening (23), either by a tapered cylinder end (27) or a slug (28), and snaps back inwardly by the remainder of the retaining member (25).

The present invention is patentable over Lin in view of Jacobi as neither reference teaches or suggest a lock assembly that includes a lock plug and a “retainer clip...including an arcuate body...having a central hinge portion....[and] being disposeable upon the plug in a first orientation...and alternatively disposeable upon the plug in a second orientation at which the hinge portion...[is] located to prevent movement of a key within...[a] keyway” as recited in claim 11 as amended. Lin discloses a standard C-clip (13) that does not have any hinge portion, and is disposeable upon the lock core (2) in only one orientation. Jacobi teaches a ring-shaped retaining material (25) formed of a flat spring material and including an inwardly-directed part (26) for engaging a groove to retain a cylinder (14), and can only be assembled such that the retaining part (26) extends through the casing opening (23). Jacobi does not have any hinge portion as the member (25) is a formed of spring material, such that the entire retaining member (25) is bendable, and thus does not even require a central hinge portion. The retaining part (26) is not a hinge, and rather only functions as a retainer when engaged within the cylinder groove

(24). Further, neither the C-clip (13) nor the retaining member (25) are disposeable in alternative orientations upon a plug, and clearly do not have a hinge portion or other portion that functions as a key stop when disposed in one of two alternative orientations.

In view of the above, the present invention as recited in independent claim 11 as amended is patentable over Lin in view of Jacobi, such that the rejection of amended claim 11 under 35 U.S.C. 103(a) should be withdrawn. As claims 12-18, 22 and 23 each depend from independent claim 11, and claim 11 is patentable over the cited references, the rejection of claim 12-18, 22 and 23 under 35 U.S.C. 103(a) should also be withdrawn.

103 Rejection under Sussina in view of Dery

In paragraph 1 of page 6 of the office action, claims 1-7, 9-22 and 24 were each rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 3,722,241 of Sussina (“Sussina”) in view of Dery (as described above). Applicant respectfully traverses this rejection and respectfully requests the withdrawal thereof, for at least the following, among other, reasons.

Sussina teaches a cylinder lock that includes a cylinder (24) disposed within a housing (34) and a “security enhancing” spring (70) provided to increase the difficulty in picking the lock (Col. 5, lines 60-63). As discussed in Col. 2, lines 21-26, the spring (70) is a “curved metal leaf spring which fits around the cylinder housing” and grips tumblers to normally align the key holes, thereby returning the tumblers to this state when a pick is removed. More specifically, the spring (70) has two ends that push against the notched corners (21) of tumblers (18) so as to hold the tumblers in a locked state (see Col. 6, lines 6-22). Further, the spring (70) also has a central, inwardly facing protrusion (72) that fits within a recess (34a) of the housing (34) to properly position the spring (70) relative to the rest of the lock.

The present invention is patentable over Sussina in view of Dery for at least the following reasons. First, neither Dery or Sussina teach a lock assembly with a housing and a plug that includes “a retainer clip...having a retainer surface positionable against...[a] housing end surface so as to prevent axial displacement of the plug along...[a housing] bore axis” as recited in each of pending independent claims 1 and 11. Sussina teaches a spring (70) that pushes inwardly against tumblers so as to prevent rotation of tumblers (18), and cannot prevent axial movement of the cylinder (24) (or even the tumblers (18)) with respect to the housing (34). As discussed above, Dery teaches a washer (5) for retaining a nut (1) on a bolt (2). Not only is there no

motivation to combine a reference that teaches a nut washer with a reference concerning a lock, the combination of the two references would not provide a clip that prevents axial displacement of the lock cylinder or tumblers. This failure of the combined teachings is primarily due to the fact that the Sussina spring (70) is disposed upon the housing (34), such that no end surface of the clip (70) could be positionable against an end surface of the housing (34) to prevent relative axial displacement of the cylinder (24) or tumblers (18). Similarly, neither Sussina or Dery, alone or in combination, teach or suggest a lock assembly with a plug and a “retainer clip...disposeable generally upon the plug outer surface” as recited in pending independent claims 1, 11 and 25. As discussed above, Sussina teaches a spring (70) disposed on a housing outer surface and Dery teaches a washer (5) disposed in a recess of a bolt (2).

In view of the above, the present invention as recited in independent claims 1 and 11 are each patentable over Sussina and Dery, such that the rejection of independent claims 1 and 11 under 35 U.S.C. 103(a) should be withdrawn. As claims 2-5, 7, 9 and 10 each depend from independent claim 1, claims 12-20 and 22 each depend from independent claim 11, and claims 1 and 11 are patentable over the cited references, the rejection of 2-5, 7, 9, 10, 12-20 and 22 should also be withdrawn. As claim 24 has been cancelled, the rejection thereof is now moot.

103 Rejection under Sussina in view of Dery and Lin

In paragraph 3 of page 6 of the office action, claims 8 and 23 were each rejected under 35 U.S.C. 103(a) as being unpatentable over Sussina in view of Dery and Lin (each described above). Applicant respectfully traverses this rejection and respectfully requests the withdrawal thereof, for at least the following, among other, reasons.

First, it must be noted that claim 8 depends from claim 1 and claim 23 depends from claim 11, and independent claims 1 and 11 are patentable over Sussina, Dery and Lin for at least the following reasons. Regarding independent claim 1, none of the cited references teaches or even suggests a lock assembly with a plug and “a retainer clip disposeable generally upon the plug outer surface and having...a central bended portion ...offset radially inwardly with respect to a remainder of the body and providing an integral, foldable hinge” as recited in claim 1 as amended. Sussina teaches a spring (70) disposeable about a housing (34) and does not have a central hinge portion, rather the entire spring (70) is bendable. Dery teaches a washer (5)

disposeable upon bolt (2) and has an outer notch (7). Further, Lin has a conventional C-clip (13) without any hinge portion.

Regarding independent claim 11, the present invention is patentable over Sussina in view of Dery and Lin as none of the references teaches or suggest a lock assembly that includes a lock plug and a “retainer clip...including an arcuate body...having a central hinge portion....[and] being disposeable upon the plug in a first orientation...and alternatively disposeable upon the plug in a second orientation at which the hinge portion...[is] located to prevent movement of a key within...[a] keyway” as recited in claim 11 as amended. Sussina teaches a spring (70) that is assembleable on the housing (34) in only one orientation, and is provided with the protrusion (72) for the express purpose of properly positioning the spring (70) in the single orientation relative to the other lock components. Dery only teaches a washer (5) disposeable on the bolt (5), and does not teach anything with regard to a lock, let alone a lock clip providing a keystone in one of two orientations. Further, Lin discloses a standard C-clip (13) that does not have any hinge portion, and is disposeable upon the lock core (2) in only one orientation.

In view of the above, even combining Lin with Sussina and Dery fails to teach or suggest features of the present invention as recited in independent claim 1 or in independent claim 11, such that independent claims 1 and 11 are patentable over the three cited references. Therefore, as claim 8 depends from independent claim 1, claim 23 depends from independent claim 11, and claims 1 and 11 are patentable over the Sussina in view of Dery and Lin, the rejection of claims 8 and 23 under 35 U.S.C. 103(a) should be withdrawn.

103 Rejection under Lin in view of Dery or Nell

In paragraph 4 of page 6 of the office action, claim 25 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Dery (each described above) or in view of US Patent 5,857,800 of Nell (“Nell”). Applicant respectfully traverses this rejection and respectfully requests the withdrawal thereof, for at least the following, among other, reasons.

Nell discloses an annular shaft flange (6) that is made of any material that is capable of being welded (Col 2., lines 33-35). The flange (6) is fed over a shaft (4) at a predetermined position, and then welded thereon (Col. 2, lines 41-46). The flange (6) includes a hinge channel (8) to enable the flange to be a partially open position to facilitate assembly on the shaft (4) (see Col. 2, lines 55-57).

The present invention is patentable over both Lin in view of Dery and Lin in view of Nell as none of the references teaches or suggests a lock assembly that includes “a clip...having a central bended portion offset radially inwardly with respect to a remainder of the clip and providing an integral, foldable hinge” as recited in claim 25 as amended. As discussed above, Lin teaches a conventional C-clip (13) without any type of hinge. Neither Dery or Lin teach anything with regard to a lock assembly; rather, Dery teaches a bolt assembly washer (5) that has an outer notch (7) and Nell teaches a flange (6) that has a hinge channel (8). So, even if one were somehow motivated by Dery or Nell to modify the C-clip (13) of Nell to provide a hinge, there is no teaching or suggestion in Dery or Nell to provide a bended portion that is offset radially inwardly to form such a hinge.

In view of the above, the present invention as recited in claim 25 is patentable over Lin in view of either Dery or Nell, such that the rejection of claim 25 under 35 U.S.C. 103(a) should be withdrawn.

Conclusion

Therefore, it is respectfully submitted that all claims pending in the present Application are in condition for allowance. Reconsideration and allowance of pending claims is therefore respectfully requested.

If the Examiner believes an interview, either telephonic or in person, will advance the prosecution of this matter, it is respectfully requested that the Examiner contact the undersigned at the Examiner's convenience.

Respectfully submitted,

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